

Do parents of seabirds feed chicks with prey that is different from their own ?

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Diet for chicks

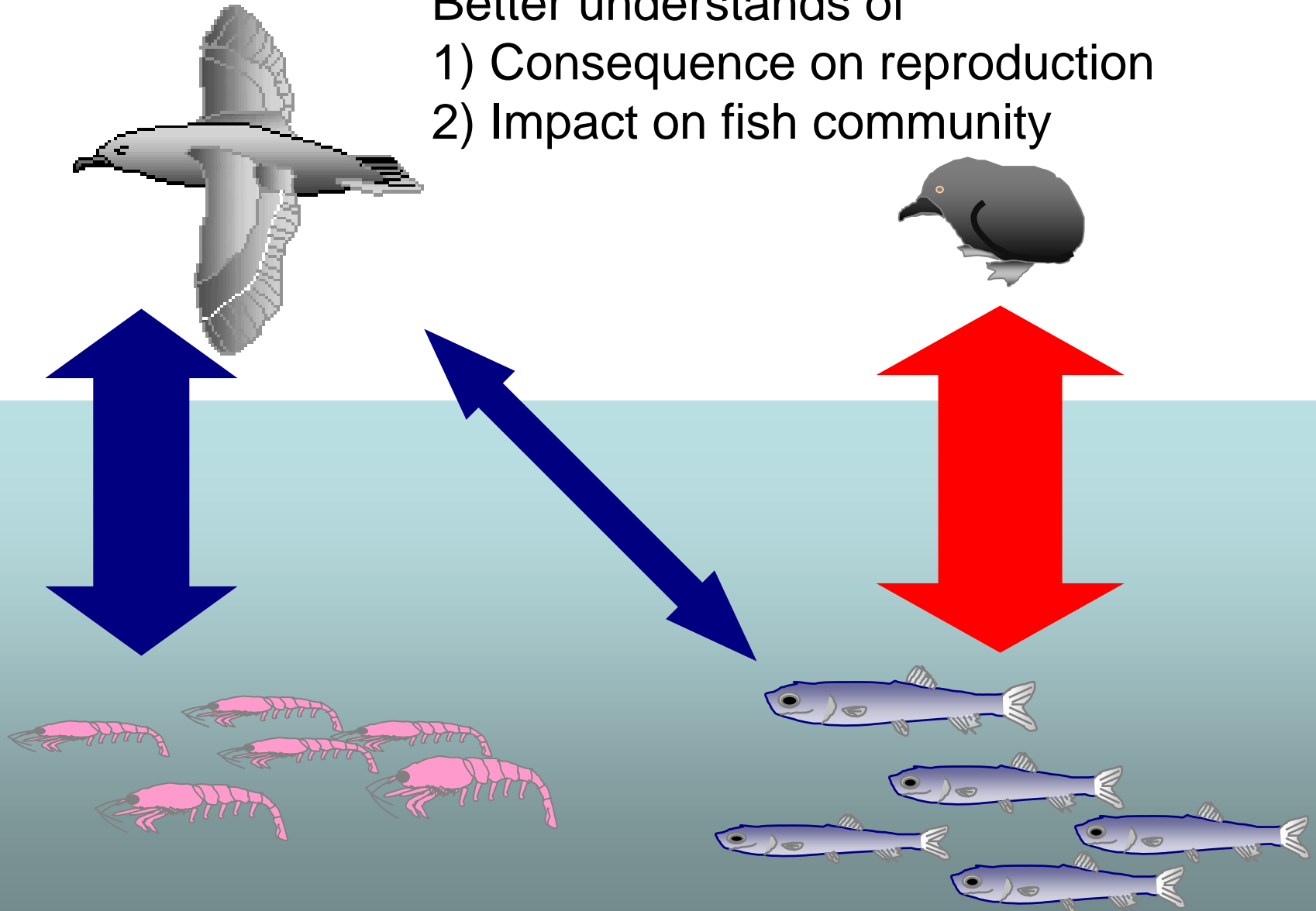
- 1) Easy to collect
- 2) Reflect fish community around the colony
- 3) Strong effects on breeding success



Diet of parents during breeding season ?

Information of diet for parents own that may be different from chick diet gives us

Better understands of
1) Consequence on reproduction
2) Impact on fish community



Diet of alcids in Pacific

(Hunt, Kato & MacKinnell 2000 PICES Report, Vermeer 1984, Hatch & Sanger 1992, Coyle et al. 1992))

	Adult (breeding season)	Chick
TBMU	Walleye-pollock Euph Squid	Sandlance Polar-cod Blenny
COMU	Walleye-pollock Euph Amph	Smelt Blenny Walleye- pollock
TFPU	Walleye-pollock Sandlance Smelt	Sandlance Saury Smelt
RHAU	Sandlance?	Sandlance Anchovy Saury

Rhinoceros Auklet



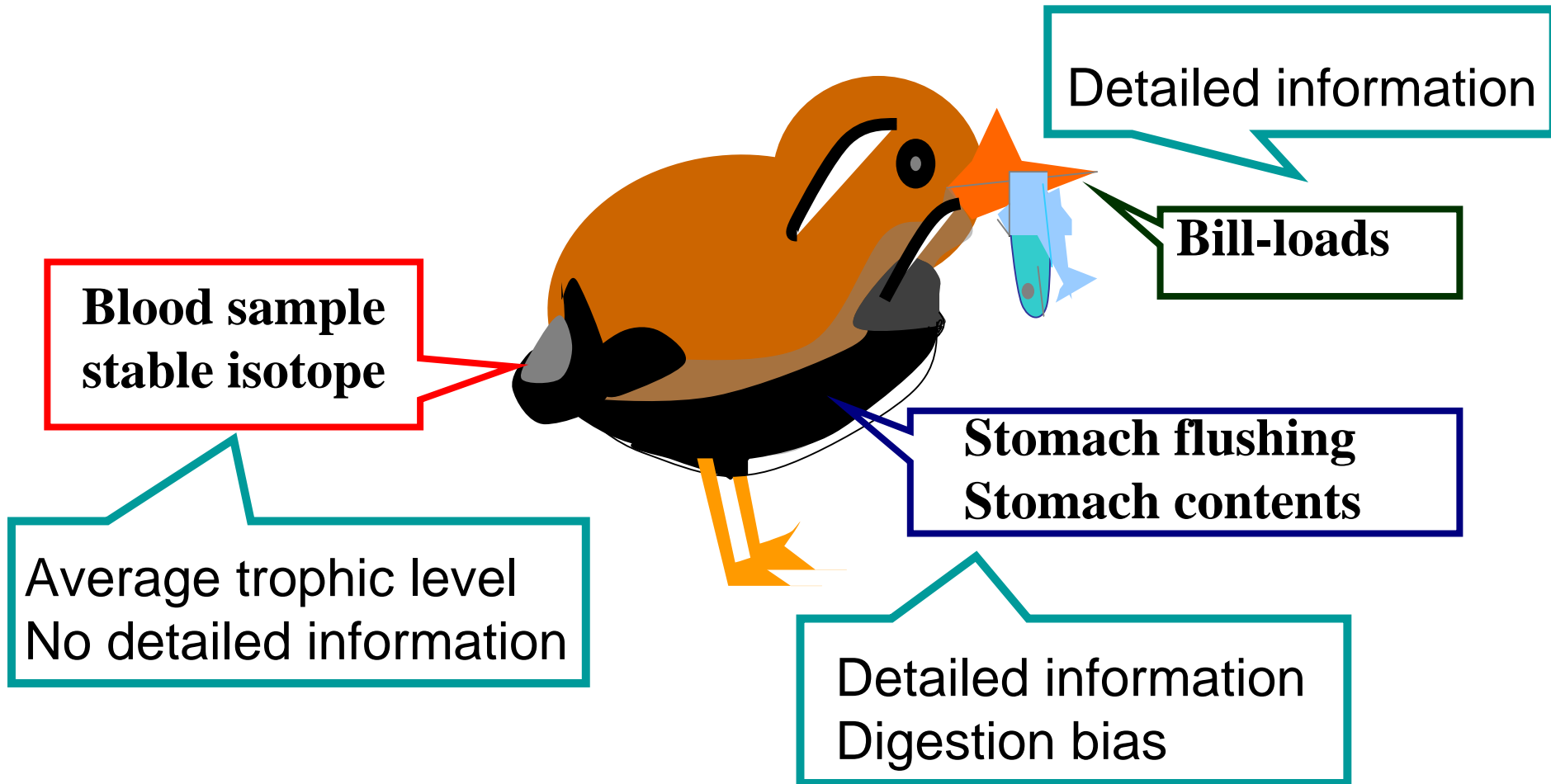
Teuri Island
2004



Question

- 1) Do parents of Rhinoceros Auklets feed chicks with prey that is different from their own ?
- 2) Prey for parents during incubation ?
- 3) Any ecological implication?

Diet sample and analyses

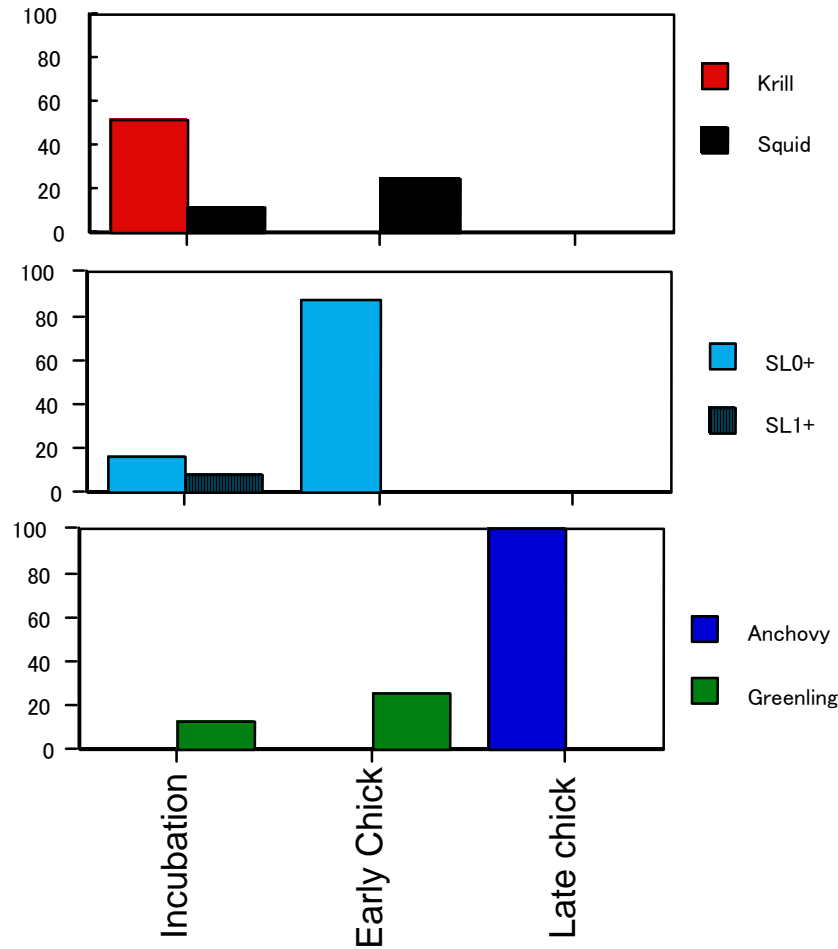


Stomach flushing technique

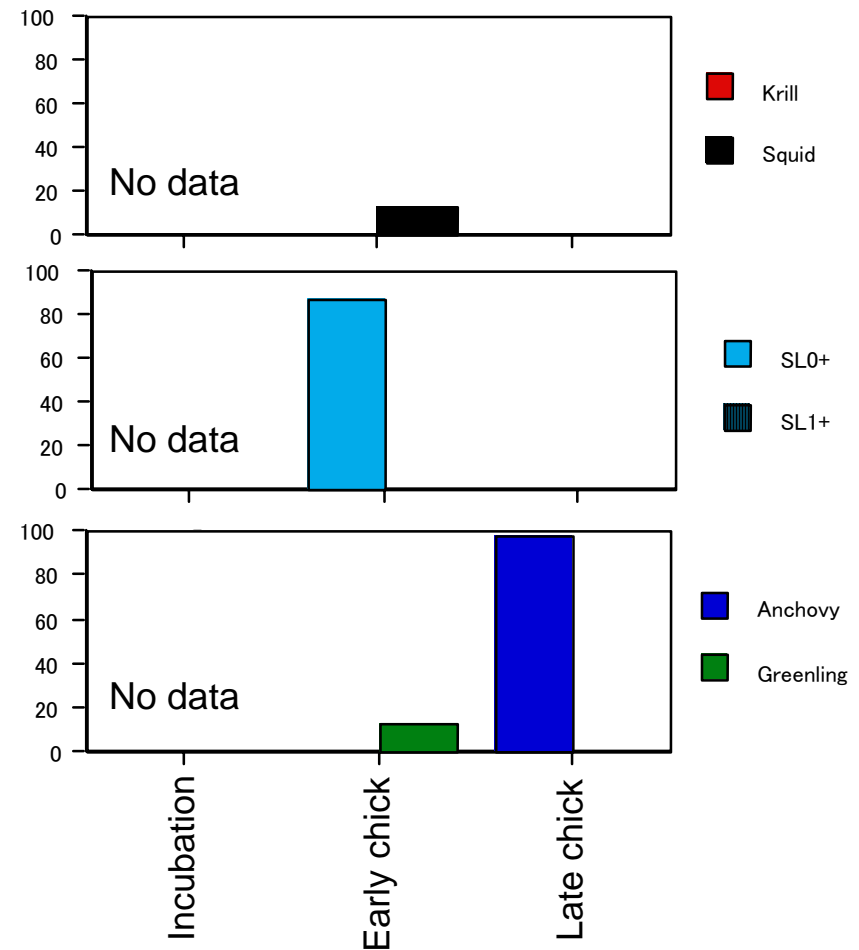


Seasonal changes in the frequency occurrence(%) of each prey in stomachs (for parent own) and bill-loads (for chicks)

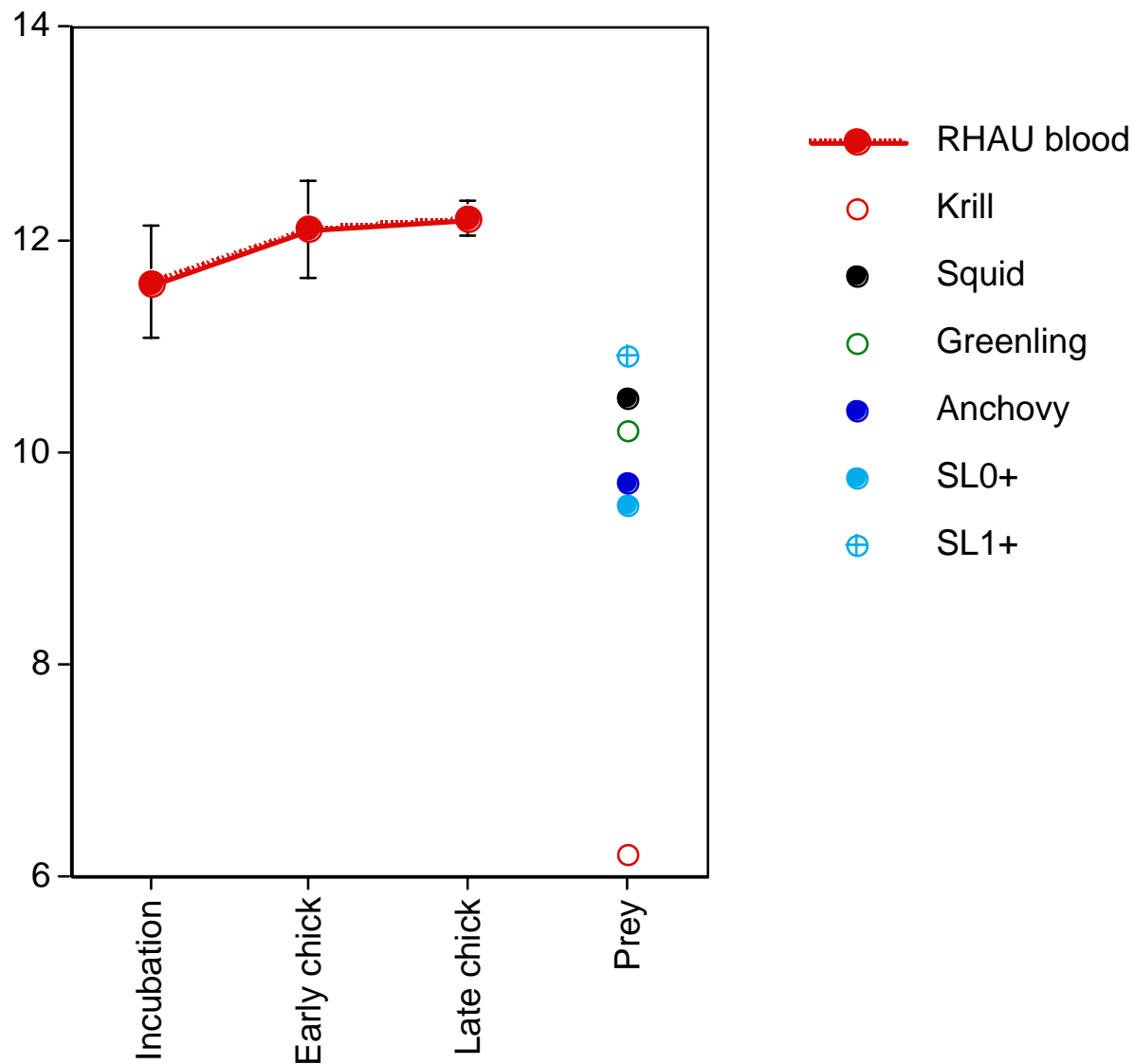
Stomach contents (n=85)



Bill-loads (n=60)



Stable isotope ratio (N^{13}) of blood of parents and potential prey

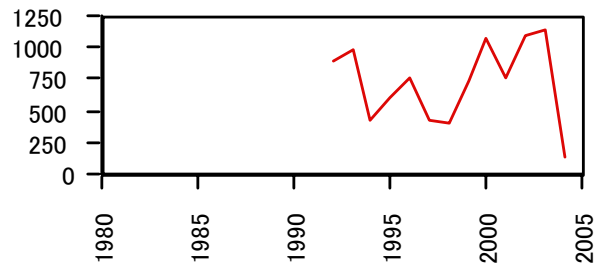


Summary

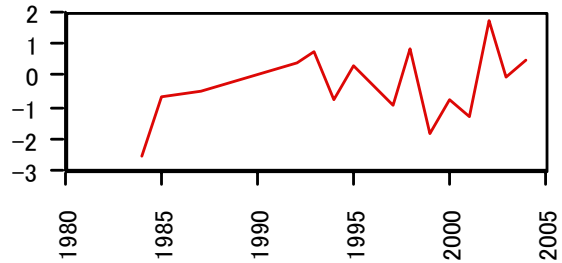
- 1) Parents fed on the same prey as chicks, though other studies indicate that parents bring larger fish for chicks
- 2) Parents fed on krill as well as fish during incubation period

Tomina per com

Krill catch

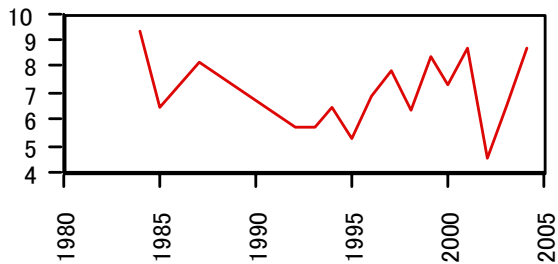


Air temp(Mar)



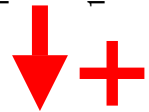
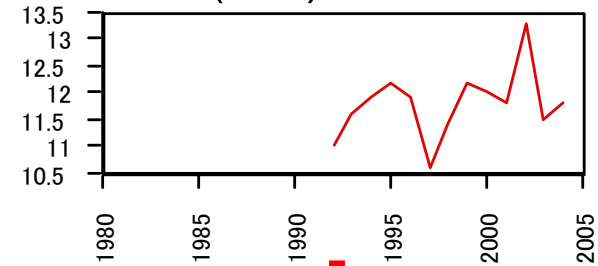
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Timing of breeding

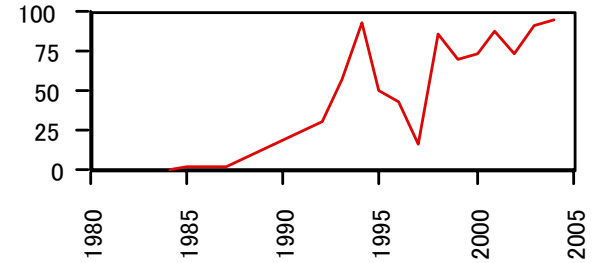


Deguchi et al. 2004, Nakata per com

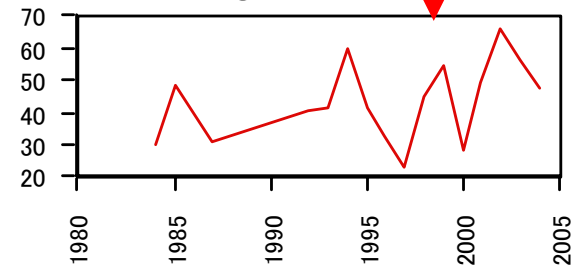
SST(Jun)



%Anchovy in chick diet



Chick growth



Ecological implication

- Timing of breeding that does not always match with the timing of northern migration of anchovy. Factors affecting the timing of breeding, including krill availability, needs to be investigated.